US Army Corps of Engineers
Construction Engineering Research Laboratory

U.S. Army CERL
P.O. Box 9005
Champaign, IL 61826-9005

Public Affairs Office
Phone: (217)-352-6511
Fax: (217) 373-7222
http://www.cecer.army.mil

Fact Sheet

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ROOFER LINKED TO GEOGRAPHIC INFORMATION SYSTEM

The Problem

The ROOFER Engineered Management System is designed to help facility managers at military installations optimize maintenance and repair (M&R) spending for roofs (see CERL fact sheet CF 9). While the current ROOFER version (2.0) is robust and flexible, most information and analytical reports output are in text format. It is difficult to make full use of this data without being able to view it globally. Having this information presented graphically would make queries much easier to visualize spatially for assistance in decision-making. Geographic information system (GIS) technology holds the key to providing graphical representation of ROOFER's analytic capabilities. By integrating GIS with ROOFER, managers would gain a powerful new tool for making best use of limited funding and resources in planning M&R work.

The Technology

A GIS module developed for ROOFER dynamically links the ROOFER databases to corresponding spatial tables which are derived from digitized installation and roof section maps. The joining of these data forms allows both spatial and aspatial data to be represented spatially. ArcView 3.0, developed by Environmental Systems Research Institute as a GIS viewer, is being used as a "managerial" GIS package. It does not include all the possible features of other, more sophisticated GIS products, but it does allow the user to view and query data spatially.

ROOFER GIS maps are color-coded to represent roofs according to their ROOFER inventory information and current inspection based Roof Condition Index. The ROOFER GIS application is Windows-based (Windows 95/98 and NT) and runs on an IBM-compatible personal computer with a minimum of 8 megabytes (24 recommended) random access memory (RAM).

Benefits/Savings

Graphical output from ROOFER GIS allows the manager to see at a glance the roof conditions on an installation-wide basis. Trends can be easily spotted in different areas or among facilities with other common attributes. Managers can more effectively plan M&R projects by grouping similar types of work together, improving the contractor's productivity by avoiding frequent equipment moves. Color-coded maps showing roof condition offer a clearer means of communicating M&R budget needs over stacks of reports.

Status

Beta testing of ROOFER GIS has occurred at Fort Lee, VA, Fort Riley, KS, Sharpe Army Depot, CA, and Tracy Defense Depot, CA. ROOFER GIS is available ROOFER Support Center. ROOFER users need to purchase ArcView 3.0 and have digitized installation maps showing the building footprints. CERL can modify the maps as necessary to show roof sections, link the user's ROOFER database to those maps, and provide the necessary GIS themes to the user. Users will then be able run ROOFER GIS along

with ROOFER and display current inventory and condition information. Alternately, users may do their own map modifications.

Points of Contact

CERL POCs are Dr. Don Uzarski, COMM 217-352-6511, e-mail d-uzarski@cecer.army.mil (ROOFER GIS) or David M. Bailey, COMM 217-352-6522, e-mail d-bailey@cecer.army.mil (ROOFER). All may also be reached by writing CERL, ATTN: CECER-CF-F, P.O. Box 9005, Champaign, IL 61826-9005.

ROOFER Support Center POC is Lynn Brownfield, COMM 217-333-5414; Conferences and Institutes, Suite 202, University Inn, 302 E. John St., Champaign, IL 61820-5612.

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